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ABSTRACT

A Dutch study of the relationship between different student cognitive styles and foreign language achievement focused on the development and analysis of a grammar test for English as a second language. The test consists of ten subtests requiring the student to manipulate aspects of English syntactic, morphosyntactic, and morphological structure. Variables in the administration of the test were also examined. An analysis of achievement on the subtests led to these conclusions about the relationship of grammar achievement to grammatical rules for native Dutch-speaking learners of English: (1) syntactic rules are generally more difficult than morphosyntactic and morphological rules; (2) it is difficult to tell whether open or closed systems present more learning difficulty; (3) open systems are more difficult than a mixture of open and closed systems, but no general observation can be made about closed vs. mixed open/closed systems; and (4) no general statement can be made about the relative difficulty of morphosyntactic and morphological rules. The study concludes that the results could be used to improve instructional materials and makes some suggestions for classroom emphasis of certain aspects of grammar. Appendixes include a copy of the test and related data tables. (MSE)

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TYPES OF GRAMMATICAL RULE AND GRAMMATICAL ACHIEVEMENT

Dr. Arthur van Essen

Paper presented at the 20th meeting of the International Association of Teachers of English as a Foreign Language, Brighton, England
April 1-4, 1986

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"Types of Grammatical Rule and Grammatical Achievement"

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0. Introduction

In carrying out fundamental research, one often stumbles across results that one neither anticipated nor set out to find. Not seldom, however, such results turn out to be indirectly useful to some other area of research or appear to lend themselves to some practical application. This idea of chance in scientific discovery, of crumbs that fall from the table of research, is beautifully described by the renowned Dutch physicist, H.B.L. Casimir, and captured in the title of his autobiographical memoir Haphazard Reality (Casimir 1983).

True, comparisons are odious. But in ways that resemble the processes described by Casimir the findings reported in this article too were merely the by-product of an altogether different quest. And as it happened they were interesting enough to be presented before a larger public.

In what follows we shall first give a brief description of the aim and design of the project which provided the framework for the spin-off reported here. For a fuller picture and references, the reader is referred to Van Essen, Van der Tuin, and Volkerts (forthcoming).

1. Aspects of Cognitive Style and FL-Achievement

The aim of the original and more ambitious project is to find a solid empirical basis for adapting teaching methods and materials to student differences, in order that more students may eventually attain to a higher degree of successful FL-learning than is at present the case. Now students appear to differ in their cognitive functioning, i.e.

they appear to favour particular ways of perceiving, thinking, learning, recalling and doing things. These preferences make up a student's cognitive style. It is not unreasonable to suppose that the learning and use of a foreign language at its various stages make special demands on a student's cognitive style. For this reason our research focuses on aspects of cognitive style which we suspect will be crucial to the learning and use of a FL at the various stages distinguished by us. These aspects are:

1. Field (In)dependence: the student's tendency to adopt a more or a less analytic approach to a problem. This tendency is measured by the GEFT (Group Embedded Figures Test). Field Independence is likely to favour the learning of FL structures, no matter how these are taught. On the other hand this inclination may adversely affect a student's communicative competence, as it is attended by a low degree of social sensitivity.
2. The student's inclination towards habit-formation as measured by the STROOP test. It may be supposed that the stronger the learner's tendency to form habits the better and more fluent his oral proficiency will eventually become.
3. Negative sensitivity to interference plays a part in all stages of the language-learning process, as it prevents the native language from constantly breaking in on FL activities, be they grammatical or communicative. This aspect of cognitive style is also measured by the STROOP test.
4. Creativity (or divergent thinking) as measured by two creativity tests, which ask the student to produce as many different and original ideas as he/she can with regard to some dramatic event or action or humorous situation. It may be supposed that the more

creative a student is the greater his communicative competence will be.

To test our assumptions about the relationships between the aspects of cognitive style described and FL-achievement, we developed two batteries of language tests, one measuring the student's grammatical, the other his communicative competence.

2. The Grammatical Test

The test which measured grammatical competence consisted of ten subtests , requiring the student to manipulate aspects of English syntactic, morphosyntactic, and morphological structure. The test measuring oral proficiency consisted of two series of questions about two composite pictures, each of which tells a story, and of a separate series of 21 questions controlled by keywords.

In what follows we shall limit ourselves to a discussion of the grammatical test, as this is the only one of the two language tests that has so far been scored by us.

In order to achieve a measure of test reliability we split all our subtests into equal halves and administered and scored them separately (cf. Drenth 1973 : 170). Cutting our tests into halves left from 6 to 10 items within each half subtest. Content and face validity were ensured by adopting the classic format for the grammar test, i.e. it only required students to perform language operations of a strictly structural kind. Face validity was further ensured by incorporating into the test those aspects of English grammar that may be regarded as characteristic of its typological structure (Drenth 1973 : 200 and 207). As typical examples of English morphological structure we may mention the inflexional endings /id, iz, iŋ/ in their various morphophonemic shapes, all of which are represented in the subtests.

Characteristic syntactic patterns are the formation of the interrogative and the 'progressive' (or 'continuous').

Before proceeding with a description of the tests we should point out that the rules they embody were extracted from eight of the most frequently used English course books in Holland, at a course level roughly corresponding with the students' age-groups, so that the rules cannot be said to have represented anything new to the students. At this point we should also mention that the rules selected for inclusion in our tests represented notorious areas of conflict between Dutch and English. This they were bound to do, as the rules selected are typical of the structure of English. Typical areas of conflict are the formation of the interrogative, the use of predicative possessives, the verbal categories of tense and aspect, and the placing of time and place adverbials.

On the basis of these criteria we arrived at the test as contained in Appendix I.

Subtest I (Rule I) required the students to make declarative (or 'affirmative') sentences interrogative. The example sentences contain both lexical and anomalous finite verbs. This is a syntactic rule of English (Strang 1968 : 161) which contrasts sharply with Dutch.

Observe that the instruction, which is in Dutch, does not contain any grammatical terms. This is true of all the subtests: grammatical terminology was deliberately avoided because we wanted to test lingual, not linguistic knowledge.

Subtest II (Rule II) required the students to convert sentences containing a possessive pronoun into their counterparts with a post-possessive. This morphological rule contains closed-system items (Strang 1968 : 109)[1]. It sharply contrasts with Dutch.

Subtest III (Rule III) required the students to convert active and passive sentences into each other. This test embodied both an important verbal category ('voice') and an important syntactic rule of English (Strang 1968 : 143 and 161).

Subtest IV (Rule IV) concerned the degrees of comparison in English. The so-called 'positive' was always given; it might be either an adjective, as in item 1, or an adverb, as in item 2 (IVb). In the latter case, the rule sharply contrasts with Dutch. The instruction was phrased in terms of persons, animals, or things possessing some quality to an ever-greater or lesser degree. The rule governing the degrees of comparison comprised both closed-system (little - good, etc.) and open-system items (Strang 1968 : 134-135 and 182-3). It is both morphological and syntactic in that the items treated may be of more than word-length.

Subtest V (Rule V) required students to assign an unmarked place to adverbials of definite (item 1) and indefinite time (item 5). The rule, which is syntactic (Strang 1968 : 185) constitutes a well-known area of conflict between Dutch and English.

Subtest VI (Rule VI) embodies the nominal category of number . It is a morphological rule. The test contained both open and closed-system items (Strang 1968 : 102-3).

Subtest VII (Rule VII) involved the verbal category of tense as induced by adverbials of time referring to either points (item 1) or periods (item 2) of time (Strang 1968 : 145). It is a notorious syntactic problem-area for Dutch learners of English.

Subtest VIII (Rule VIII) required the students to integrate two given sentences by using either who or which. Whereas the English sub-system of relative pronouns reflects a distinction of 'human' versus 'non-

human', the Dutch system is based on gender and number distinctions ('case' was left out of consideration), so that we have another area of conflict here (cf. Strang 1968 :120-121). This pronominal subsystem may be called morphosyntactic because the members of the system vary in their form according as they refer to either a human or a non-human antecedent elsewhere in the sentence. The subsystem is closed in that it has a strictly limited number of members; it is open because, beyond the limits of the pronouns themselves,its members may refer to anything thought of as 'human' or 'non-human' respectively.

Subtest IX (Rule IX) referred to the relative placing of place and time adverbials in the sentence. It is a syntactic rule which is radically different from the corresponding one in Dutch (Strang 1968 : 185).

Subtest X (Rule X) embodied the category of aspect which, as a category of the verb, does not exist in Dutch. It is an intrinsically important rule of English, which for its implementation largely depends on time-indicators (Strang 1968 : 143, 154/5, 162). The unmarked term in the aspectual opposition (the 'simple tense') constitutes a morphological rule, the marked term (the 'complex tense') a morphosyntactic rule, as it functions across the boundaries of a single word. The unmarked term forms an open class, the marked term is closed for two reasons: (1) only forms of 'be' + -ing are used, (2) the lexical verbs used (themselves an open class) should be capable of expressing limited duration.

The above test-battery was administered to a group of 50 Dutch high-school students with ages ranging between 15 and 17 and a nearly equal number of boys (24) and girls (26).

3. Analysis of the Errors

Though our primary interest was in the degree and not in the nature of the students' grammatical competence, the moment we started scoring the tests we got carried away by the nature of the errors we came across,

losing sight of the original aim as we did so.

Let us first take a look at subtest Ib (the interrogative in English). A correct application of this rule involves the following steps.

(Fig. 1)

Now, the first question the student has to ask himself is whether the example sentence contains an anomalous finite or no; if so, he has to meet condition 1. This is the case in items 1, 4, 5, 8 of subtest Ib. In all the other items he has to meet conditions 2, 3, 4, 5. Condition 3 also implies ∅ ending, wherever appropriate. Conditions 4 and 5 might be regarded as simply understood after the application of 2 and 3, but a consideration of the errors made in subtest I convinced us that this is obviously not true for Dutch learners of English. The errors made here can be divided according as they are either of a grammatical kind or against the instruction. The grammatical errors may be subdivided according as they are against the interrogative rule or not. At this level a further subdivision can be made and it was here that a possible relationship between the types of errors made and our psychological tests began to dawn on us.

What should be said at this point is that we started scoring the test in the rather naive belief that with the instruction and the examples of a pretty straightforward kind the errors would be equally clearcut. Nothing is farther from the truth. In less than no time we had to distinguish nearly 20 types of errors and our classification scheme (Fig.2) simply arose from the effort to impose a qualitative grid on the errors, so that they would become more interesting from a psychological point of view, would throw more light on the nature of the student's grammatical knowledge and would point up an aspect of cognitive style that was independently measured by some of our psychological tests. For

example, the pragmatic attitude shown by the deviation (do you do your homework) from what was to be expected (does he do his homework) on the basis of the example given (he does his homework) might be viewed as a manifestation of Field Dependence; the avoidance strategy adopted in will you help me or would you help me instead of must you help me might be interpreted in terms of a particular point on the Field Dependence/Field Independence scale.

(Fig. 2)

Errors due to interference from the native language could be regarded as indicative of the student's sensitivity to interference. In this way our error analysis would give us independent confirmation of the evidence provided by the Group Embedded Figures Test and STROOP test respectively.

Having scored another subtest, we arrived at the following conclusions:

1. There is more to error analysis than meets the eye. The types of error traditionally distinguished in the literature (interference, overgeneralization) only go a limited way towards accounting for the errors one actually comes across, even in such a limited domain as that governed by a single grammatical rule. In the corpus of errors in subtest I only 19% could be accounted for in terms of interference, and 17% in terms of overgeneralization. Moreover, it was not always possible to trace the real source of an error. This means that in error analysis the problem of classifying an error will never go away. For example, within the corpus of errors against Rule I what is one to do with conjugation errors? Thus neither polyflexion (17%) nor monoflexion (0.5%) of the type illustrated in Fig. 2 can be traced to either interference or overgeneralization, as neither occur in Dutch or in English

(though polyflexion does occur in German, though only in noun groups, and in French, though chiefly in the spelling). Should these errors consequently be regarded as due to interference from other foreign languages?

Another substantial source of errors was formed by the category 'errors not against interrogative rule', such as tense errors (7%), and pragmatic deixis errors (16%).

2. Tempting though it was for us to continue using the fine-mesh sieve we had used up till then we realized we would soon end up with as many types of errors as there were students in our sample. Even with the total scores of only three types of errors (interference, overgeneralization, others) this would have led to statistically insoluble problems.

This meant a return to our original summative method of scoring (the one we had intended to carry out and which was now being implemented by marking all answers as either 'right' or 'wrong').

4. Statistical Analysis of the Test Scores

A statistical analysis of the scores obtained from each subtest, showed no significant difference between achievement and the sex variable (t tests yielded no significant t values; see Appendix II).

An analysis of the scores from each half of each subtest showed a significant correlation (Pearson correlation coefficient) in the case of six pairs of halves (subtests I, II, III, VII, IX, X), irrespective of the order in which the test halves were administered (See Appendix III).

In four cases (subtests IV, V, VI, VIII) there was a non-significant correlation between the test halves, irrespective of the order in which these halves were presented.

With regard to subtests IV, V, VI, and VIII, an explanation of the non-significant correlation was provided by further, closer inspection of the linguistic contents of the individual test halves. This revealed that different items had been used in the construction of each test half. For example, no adverbs had been used in subtest IVa (see Appendix I), whereas they did occur in IVb (items 2 and 5). In subtest Va (item 8) it had obviously been the analogy with the native language in respect of the placing of 'now' which had induced our subjects to choose a place for it that in English would be regarded as 'marked' (e.g. 'We are in Holland again now'). In the case of subtest VIII the low correlation was caused by the way in which a number of subjects had viewed the who/which dichotomy, which they appeared to have interpreted in terms of 'animate' versus 'inanimate' instead of 'human' versus 'non-human' (VIIIb, items 1 and 2). It would follow, then, that it is not enough for test halves concerning closed grammatical systems to be similar (e.g. little-less -least/much-more-most); they simply have to be identical (e.g. subtests IV, VI, VIII; subtest V deviates because of 'now'). Though a non-significant correlation may be the result of the order in which test halves are presented, this was not borne out by our linguistic analysis of the test items.

The t values between the test halves administered in either order (a - b or b - a) do not point to any effects of fatigue or decrease in test motivation (see Appendix IV). Significant differences in test achievement appear to be due to differences in linguistic contents, which will be discussed below.

On the basis of the Pearson correlation coefficients between both test halves found upon administering the test halves in either

order (Appendix III), we may conclude that both test halves measure almost the same performance. This means that in our further statistical analysis we are justified in using together the scores obtained from the two individual test halves, instead of using them independently. On the basis of the "split-half" reliability coefficients we are all the more justified in adding together the scores of individual halves, as the reliability coefficients of the a - b and the b - a order are $r = .72$ ($N = 26$; $p < .001$) and $r = .83$ ($N = 24$; $p < .001$) respectively. A still further justification of our decision to add together the scores obtained from individual test halves, irrespective of sex and of the order of presentation, is provided by a significant correlation between the test halves ($r = .75$; $N = 50$; $p < .001$). These high reliability coefficients support our earlier assumptions about the face and content validity of our grammatical test. In section 6 we shall go into the problems of concurrent validity.

5. The Nature of Grammatical Rules and Grammatical Achievements.

In addition to examining the reliability and validity of our grammatical test we also carried out a statistical analysis concerning the relationships between the various achievements on individual subtests. Though this further analysis did not form part of the original aim of the project (which is concerned with overall achievement on the grammar test, not with individual achievement on subtests), it yielded results that threw an interesting sidelight on the question of how grammatical achievement may be related to types of grammatical rules. As such it may be of interest to still another branch of applied linguistics, namely that of course design.

It will be recalled that our grammar test comprised syntactic,

morphological, and morphosyntactic rules, embodying both open and closed grammatical systems (see Section 2).

The syntactic rules (measured by subtests I, III, V, VII, and IX) constitute open systems. The morphosyntactic rules (IV, VIII, X) form both mixed open/closed (IV, VIII) and closed systems (X). The morphological rules (II, VI) form both open/closed (VI) and closed systems (II). As morphosyntactic rules on the one hand and morphological rules on the other are not coextensive with open/closed systems and closed systems respectively, one has to compute not just three correlations (which would have been the case had they been coextensive), but six. The results are shown in Appendix V.

From the t values the following conclusions may be drawn (with regard to English):

1. Syntactic rules as a whole are (significantly) more difficult than morphosyntactic rules, or alternatively, achievements on syntactic subtests are significantly lower than those on morphosyntactic subtests. This tendency shows up most clearly with regard to rule VII.

   This general conclusion does not hold true for rule X, though. (This latter rule is either non-significantly easier or significantly more difficult.) Rule X deviates from the other two morphosyntactic rules in that it constitutes not an open/closed but a closed system. Rule IV also deviates from the others, as this rule is non-significantly easier than rule I and significantly more difficult than rule IX.

   Within the syntactic rules -all of them open systems- the rule governing the perfect in English (subtest VII) appeared to be the

most difficult. The passive (III) turned out to be the second most difficult rule, which was only slightly more difficult than the rule governing the place of adverbials of indefinite time and frequency (V). These rules were followed by the rule concerning the interrogative in English (I) and, finally, by that governing the relative position of adverbials of place and time in English (IX).

2. Syntactic rules as a whole are (significantly) more difficult than morphological rules. Put differently, achievements on syntactic subtests are significantly lower than those on morphological subtests. This, however, does not hold good for rule IX. But then this rule yielded non-significant *t* values in most cases, in contrast to the other four syntactic rules (I, III, V, VII). In this respect, therefore, rule IX behaved rather differently from the other syntactic rules. And whenever rule IX did show a significant *t* value, it concerned rules that themselves showed a deviant picture: rules X and IV (cf. 1 above).

3. On the basis of the evidence it is hard to say whether or not open systems are more difficult than closed systems. An exception can be made in the case of rule II, which constitutes a closed system that proved to be more difficult than any of the open systems, with the exception of rule IX, however (cf. 2, above). With respect to open systems, rule X is either significantly more difficult or non-significantly easier. According to our data, rule X deviates from rule II. This is not surprising since rule X is a morphosyntactic rule, whereas rule II is wholly morphological. So rule X behaves differently with regard to both the other morphosyntactic rules (see 1, above) and the other closed system.

4. Open systems are (significantly) more difficult than a mixture of open/closed systems. In other words, achievements on open-systems subtests are significantly lower than on those embodying open/closed systems. This conclusion, however, does not apply to rule IX, nor to rule IV (see 2, above).

5. As with point 3 above, no general observations can be made in respect of the relationship between closed and open/closed systems since rules II and X are different rules (see 3, above), yielding different t values. Rule X is significantly more difficult than the mixed open/closed systems. Rule II is only significantly easier than rule IV. With respect to both other open/closed systems, rule II does not yield any significant t value. Here too we note that rule IV behaves differently (see 1 and 2, above).

6. No general statement can be made with regard to the relationship between morphological and morphosyntactic rules. Rule X is significantly more difficult than rules II and VI. The t values of morphological rules II and VI versus morphosyntactic rules IV and VIII allow of no general conclusion.

6. Inferences and Pedagogical Implications

As we noted above syntactic rules present more difficulties to the learner than do other rules of grammar or closed systems. This may be due to the intrinsically greater complexity of syntactic rules and would be true of rules I, III, V and VII. Thus, a correct application of the rule governing the interrogative in English involves 5 steps (as we saw in Fig.1.) some of which call upon the student's knowledge of other grammatical subsystems (e.g. step 3), of the lexicon (step 4), of the English grammatical system generally (e.g. that English does not know polyflexion (which accounts for approx. 17 p.c.

of the errors): step 5), etc..

What does all this imply for course design? To remedy the situation course writers would have to supply the materials for additional practice of the syntactic rule involved. But further practice alone would not be enough. From the start any practice of the rule concerned would have to be carefully guided by insightful learning of the kind described by Van Parreren (Van Parreren 1975). In the case of the English interrogative, for example,more practice would be required at the levels of steps 3 and 5, in conjunction with the use of a visual model illustrating the principle of monoflexion (cf. Van Parreren 1975 : 123-4) and an algorithm as depicted in fig. 1. This could prevent 18% of the errors from occurring.

A similar kind of reasoning may be adopted with regard to rules III, V, and VII. As we pointed out above, however, rule VII turns out to be the most difficult syntactic rule. We suspect that the strong contrast with the native language played an important part here, over and above the intrinsic complexity of syntactic rules generally. Similarly, the strong contrast with Dutch may account for the unique position of rule X among the morphosyntactic rules: it proves to be the most difficult of them. More often than not it also turned out to be more difficult than the syntactic rules.

Contrary to what one would expect on the basis of contrast with the mother tongue, rule IX appeared to be the easiest syntactic rule. However, from the point of view of the Dutch learner this rule of English exhibits a relatively simple mechanism in that it merely inverts the position of the time and place adverbials of the native language. Rule IV occupies a place of its own in that it is the second most difficult morphosyntactic rule. At least two factors appear to be

responsible for this unique position. For one thing subtest IV involved not only the comparison of adjectives but also that of adverbs (where more than fifty percent of the errors here was made) and for another the comparison of some items (e.g. little-less-least / few-fewer-fewest) that embody a deep-seated semantic contrast with the native language.[2] Not surprisingly, a large number of mistakes was made in this latter instance as well. And all of them point to an unfamiliarity with the related forms concerned.

As for the morphosyntactic rules, course writers could derive much benefit from the theory of signal grammar (cf. Zimmermann 1977 : 123 ff.). Signal grammar constitutes another cognitive approach to the learning of grammar, employing 'if p, then q' relationships to elicit morphosyntactic categories (q) on the basis of 'signal words' (p). Signal grammar has the advantage of operating intralingually, thus reducing the risk of interference. In the case of rule X, for example, the course writer could introduce visual models like the following

(Fig. 3.)

in which 'now', 'every day', etc. represent the 'signals'. This cognitive stage of mastering a rule should be followed by one at which further practice should lead to automation and transfer of the rule concerned. Morphosyntactic rule IV presents at least two stumbling-blocks: the comparison of adverbs and the comparison of 'little' and 'few'.

For Dutch students of English the comparison of adverbs is complicated by the inherent problem of the derivation of adverbs from adjectives, Dutch using invariables in such cases. In our subtest IV,

however, the adverbs were presented in their appropriate (i.e. 'positive') form in the cues and mistakes were almost exclusively made in the comparatives and superlatives. It would seem, then, that students simply derived adverbs such as 'happily' from 'happy' in much the same way as they would derive (and compare) 'unhappy'. So, more explicit attention to the comparison of adverbs appears to be called for. Indeed, it would be advisable to set the comparison of adverbs apart from that of adjectives, especially that of adjectives which end in -ly (e.g. 'friendly').

The comparison of 'little' and 'few' calls for more intensive practice of the forms concerned, so that the student learns which comparative and which superlative go with what positive degree. A diagram showing which determiners are used if quantity and which if number is to be expressed may also be found helpful (see Fig. 4).

(Fig. 4.)

As to the question of concurrent validity touched on in Section 4, the following may be inferred from Appendix VI.

There is no significant correlation between achievements either on the individual subtests concerning the different types of rule/subsystem or on all the subtests taken collectively on the one hand, and the school marks allotted in Forms 3 and 4 on the other.

With the exception of the morphological rules and the mixed open/closed systems ($\underline{t} = -2.21$; df = 48; $P < .03$ and $\underline{t} = -2.55$; df = 48; $p < .01$ respectively) there appears to be no difference in test achievement between third and fourth formers. This is true of the different types of rule/subsystem as well as of all the subtests

taken together (See Appendix VII). This lack of progress during the fourth year at secondary school in what we have proved to be the more difficult aspects of English grammar, once again emphasizes the need for more attention to be paid to these aspects by course books and teachers alike.

Footnotes

1. Morphological rules contain open-system items, making up their paradigmatic part, and closed-system items, making up their enumerative part. The nature of syntactic rules is typically 'open'.
2. In contrast with Dutch, English distinguishes between number (e.g. many houses) and quantity (e.g. much water), so that Dutch learners have to master an additional opposition with these determiners.

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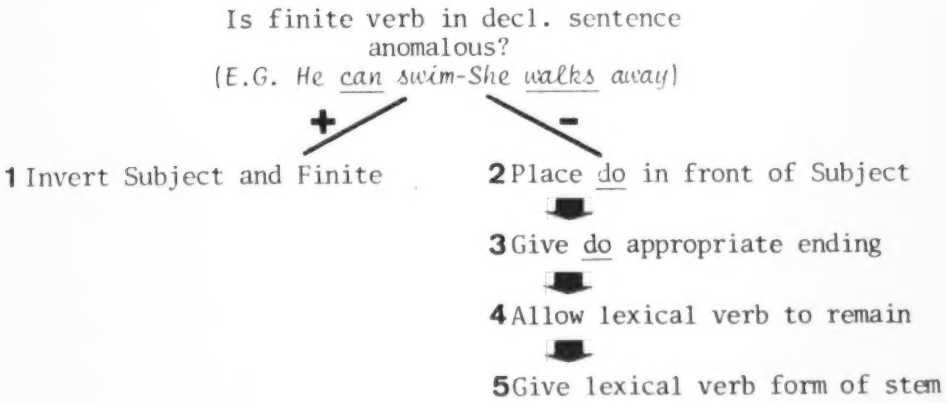
(fig. 1)

THE INTERROGATIVE


Is finite verb in decl. sentence anomalous?
(E.G. He can swim-She walks away)
+
-
1 Invert Subject and Finite
2 Place do in front of Subject
3 Give do appropriate ending
4 Allow lexical verb to remain
5 Give lexical verb form of stem

(fig. 2)

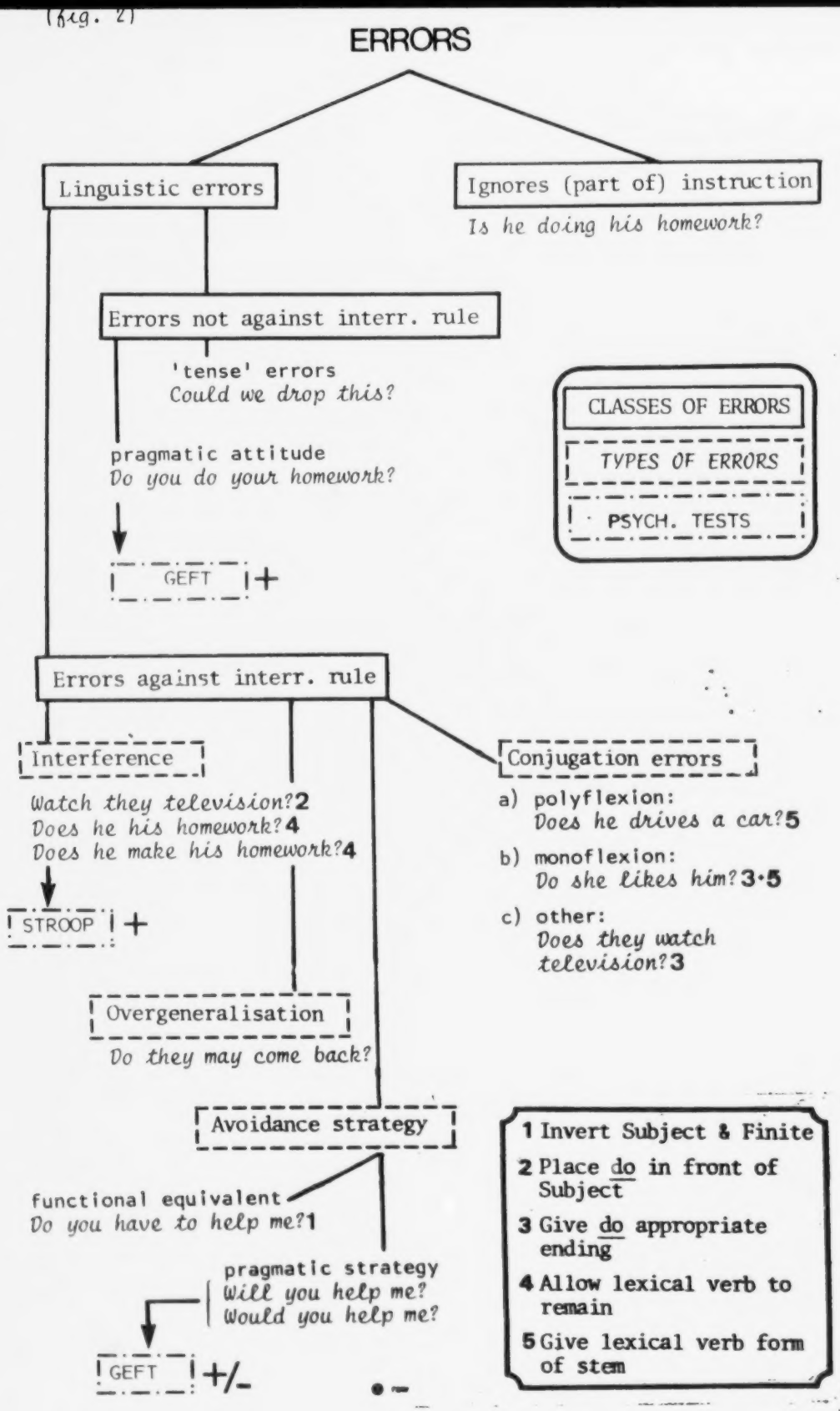
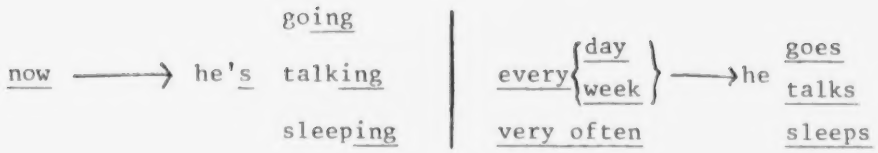

ERRORS
Linguistic errors
Ignores (part of) instruction
Is he doing his homework?
Errors not against interr. rule
'tense' errors
Could we drop this?
pragmatic attitude
Do you do your homework?
GEFT +
CLASSES OF ERRORS
TYPES OF ERRORS
PSYCH. TESTS
Errors against interr. rule
Interference
Watch they television?2
Does he his homework?4
Does he make his homework?4
STROOP +
Overgeneralisation
Do they may come back?
Avoidance strategy
functional equivalent
Do you have to help me?1
pragmatic strategy
Will you help me?
Would you help me?
GEFT +/-
Conjugation errors
a) polyflexion:
Does he drives a car?5
b) monoflexion:
Do she likes him?3·5
c) other:
Does they watch television?3
1 Invert Subject & Finite
2 Place do in front of Subject
3 Give do appropriate ending
4 Allow lexical verb to remain
5 Give lexical verb form of stem

Fig. 3



(after Zimmermann, 1977).

Fig. 4

	quantity	number
'veel'	much	many
'weinig'	little	few

Appendix 1.

Ia

Instruktie:
Maak de volgende zinnen vragend zonder hiervoor alleen een vraagteken te gebruiken. Schrijf één antwoord op de stippellijn (zonder de -ing-vorm te gebruiken).

(Make the following sentences interrogative without using only a question-mark to do it. Write one reply on the dotted line (without using the -ing-form)).

1. I am clever. .....?
2. You go home.
3. She likes him.
4. He sees the film.
5. He must go to school.
6. You play the guitar.
7. She can sing beautifully.
8. He will come in time.
9. She brings the book.
10. She may open the window.

IIa

Instruktie:
Hieronder vind je 7 paar zinnetjes. Vul het tweede zinnetje van elk paar zo aan (met één woord) dat je hetzelfde zegt als in het eerste zinnetje.

(Below you find 7 pairs of sentences. Complete the second sentence of each pair in such a way (with one word) that you say the same thing as in the first sentence).

1. These are our bags. These bags are .....
2. This is her raincoat.
3. He has a big car.
4. These are your books.
5. These are my pencils.
6. They have a red car.
7. This is your pen.

IIIa

Instruktie:
In de onderstaande zinnen gaat het om iets dat nu gebeurt. Als je de zin hebt The apple is eaten by Adam kun je hetzelfde ook zeggen door met Adam te beginnen en met apple te eindigen. Schrijf je antwoord op de stippellijn. Gebruik geen -ing-vormen.

(The sentences below are about something that is happening now. If you take the sentence The apple is eaten by Adam, you can say the same thing by beginning with Adam and ending with apple. Write your reply on the dotted line. Do not use -ing-forms).

1. The flowers are picked by Jackie.
   .....
2. Mother cleans the kitchen.
3. The singer sings the song.
4. The potatoes are cooked by me.
5. The flowers are watered by Charles.
6. Mother paints the house.
7. Mary cleans the floor.
8. The child is dressed by the mother.
9. The ball is kicked by John.
10. The cleaner sweeps the floor.

IVa

Instruktie:
Personen of dingen kunnen een bepaalde eigenschap bezitten. Deze eigenschap kunnen ze in meerdere of mindere mate bezitten. In de onderstaande zinnen worden steeds 3 personen of dingen met elkaar vergeleken waarvan de 2 laatste een bepaalde eigenschap in meerdere mate bezitten. Deze eigenschap wordt aangegeven door het onderstreepte woord. Vul de openstaande plaatsen in.

(Persons or things may have a particular quality. They may have this quality to a higher or lower degree. In the sentences below 3 persons or things are compared of which the two that are mentioned last possess the quality to a higher degree. This quality is indicated by the underlined word. Fill in the open spaces).

1. Test A is difficult. But test B is ..... and test C is the ..... of all.
2. This dog is thin.
3. My coat is expensive.
4. Question 1 is easy.
5. I was lucky.
6. This woman is famous.
7. This song is popular.
8. Trevor is bad at French.
9. My drink is cold.
10. You have much money.

Va

Instruktie:
In onderstaande zinnen gaat het er om de tussen haakjes gegeven tijdsaanduidingen op de juiste plaats in de zin te zetten.
Schrijf de volledige zin op het stippellijntje.

(Put the time indications in their proper places in the sentences below. Write the complete sentence on the dotted line).

1. Do you see her? (ever)
   .....
2. He has breakfast at eight (every morning)
3. We should be in England (at seven o'clock)
4. Does Peter speak to Mary? (often)

5. My friend Peter is telling jokes (always)
6. On Saturdays Father buys flowers for Mother (sometimes)
7. Of course, John will write a letter (soon)
8. Surely, we are in Holland again (now)
9. On Mondays Linda went away after dinner (seldom)
10. I could have eaten a horse (never)

VI

Instruktie:
Vul aan op de stippellijn.

(Complete on the dotted line).

1. One child - two .....
2. One foot
3. One sandwich
4. One man
5. One coat
6. One glass

VIIa

Instruktie:
Zet op de openstaande plaatsen in onderstaande zinnen het werkwoord dat tussen haakjes achter de zin staat, in de juiste tijd (je mag geen -ing-vormen gebruiken).

(Fill in the correct verb forms in the open spaces in the sentences below. (Do not use -ing-forms)).

1. Yesterday they ..... to school. (walk)
2. Last time Peter ..... the phone. (answer)
3. Last week you ..... me a picture. (show)
4. Yesterday at breakfast I ..... a biscuit. (take)
5. I ..... a diary ever since I was young. (keep)
6. I ..... about it for the past few days. (think)
7. Grandfather ..... in his armchair by the window since he came home. (sleep)
8. Before he left, my brother ..... goodbye (say)
9. My mother ..... the windows all her life. (clean)
10. I ..... a pipe since I was about eighteen. (smoke)

VIIIa

Instruktie:
Maak van de volgende twee zinnen steeds één zin door who of which te gebruiken. Schrijf het antwoord op de stippellijn.

(Make one sentence out of every pair of sentences below by using who or which. Write your answer on the dotted line).

1. A sailor is a man - A sailor sails on a ship.
   .....
2. A fridge is a machine - A fridge freezes food.
3. A jet is an aeroplane - A jet has no propellers.

4. A soldier is a man - A soldier fights for his country.
5. A pilot is a person - A pilot flies an aeroplane.
6. A rose is a flower - A rose grows in our garden.

IXa

Instruktie:
In onderstaande zinnen gaat het er om de tussen haakjes gegeven woorden op de juiste plaats in de zin te zetten. Gebruik daarvoor één van de beide stippellijntjes in de zin.

(Put the words given in parentheses in their proper places in the sentences below. Use one of the two dotted lines in each sentence).

1. He spent his holidays ..... in France ..... (last year)
2. I see her ... every day ... (at the busstop)
3. I met him ... last week ... (at the cinema)
4. She planted a tree ... in 1980 ... (in the park)
5. He was ... here ... (this morning)
6. We shall meet ... at the station ... (tomorrow)

Xa

Instruktie:
Vul op de openstaande plaatsen in onderstaande zinnen de juiste vorm in van het werkwoord dat tussen haakjes achter de zin staat. Gebruik geen shall of will.

(Fill in the correct form of the verb given in parentheses in the open spaces in the sentences below. Do not use shall or will).

1. Our teacher often ... John a question. (ask)
2. John always ... to school. (cycle)
3. Peter ... an exercise just now. (do)
4. She ... doing tests. (hate)
5. Usually Joe ... outside. (look)
6. Peter ... football now. (play)
7. After school Alice usually ... her homework. (do)
8. Look! John ... on his head. (stand)
9. Now John ... t.v. in the sitting room. (watch)
10. Peter ... a book now. (read)

Ib

Instruktie:
Maak de volgende zinnen vragend zonder hiervoor alleen een vraagteken te gebruiken. Schrijf één antwoord op de stippellijn (zonder de -ing-vorm te gebruiken).

(Make the following sentences interrogative without using only a question-mark to do it. Write one reply on the dotted line (without using the -ing-form)).

1. I shall give her a present.
   .....?
2. They watch television.
3. She helps her father.

4. We can drop this.
5. You must help me.
6. We like ice-cream.
7. We go to the station every morning.
8. They may come back.
9. He does his homework.
10. He drives a car.

IIb

Instruktie:
Hieronder vind je zeven paar zinnetjes. Vul het tweede zinnetje van elk paar zo aan (met één woord) dat je hetzelfde zegt als in het eerste zinnetje.

(Below you find 7 pairs of sentences. Complete the second sentence of each pair in such a way (with one word) that you say the same thing as in the first sentence).

1. These are our cups. These cups are .....
2. This is her towel.
3. He has a new bike.
4. These are your tennis rackets.
5. These are my shoes.
6. They have a fast sportscar.
7. This is your shirt.

IIIb

Instruktie:
In de onderstaande zinnen gaat het om iets dat nu gebeurt. Als je de zin hebt The apple is eaten by Adam kun je hetzelfde ook zeggen door met Adam te beginnen en met apple te eindigen. Schrijf je antwoord op de stippellijn. Gebruik geen -ing-vormen.

(The sentences below are about something that is happening now. If you take the sentence The apple is eaten by Adam, you can say the same thing by beginning with Adam and ending with apple. Write your reply on the dotted line. Do not use -ing-forms).

1. Mary is introduced by John
   .....
2. John is helped by Peter's brother.
3. The mechanic repairs the car.
4. The baby is washed by Daddy.
5. Daddy cleans the car.
6. John calls Mary.
7. Jane opens the door.
8. The names are mentioned by the pupil.
9. The news is discussed by everybody.
10. The cat kills the bird.

IVb

Instruktie:
Personen of dingen kunnen een bepaalde eigenschap bezitten. Deze eigen-

schap kunnen ze in meerdere of mindere mate bezitten. In de onderstaande zinnen worden steeds 3 personen of dingen met elkaar vergeleken waarvan de 2 laatste een bepaalde eigenschap in meerdere mate bezitten. Deze eigenschap wordt aangegeven door het onderstreepte woord. Vul de openstaande plaatsen in.

(Persons or things may have a particular quality. They may have this quality to a higher or lower degree. In the sentences below 3 persons or things are compared of which the two that are mentioned last possess the quality to a higher degree. This quality is indicated by the underlined word. Fill in the open spaces).

1. John's party was great. But Susan's party was ..... and Patrick's party was the ..... of all.
2. John smiled happily.
3. This road is dangerous.
4. I take a small piece of cake.
5. You could do this easily.
6. My book is interesting.
7. There is little tea left in this cup.
8. Peter is good at football.
9. There were few people at the football match.
10. This car is fast.

Vb

Instruktie:
In onderstaande zinnen gaat het er om de tussen haakjes gegeven tijdsaanduidingen op de juiste plaats in de zin te zetten. Schrijf de volledige zin op het stippellijntje.

(Put the time indications in their proper places in the sentences below. Write the complete sentence on the dotted line).

1. My book should be there (still)
   .....
2. Grandfather has been visited (never)
3. Is it like this? (always)
4. By the end of the week Susan is ill (often)
5. He gave her a flower (last week)
6. During the holidays we are in the swimming-pool even on weekdays (sometimes
7. You should have finished your work (yesterday)
8. In church you talk (never)
9. Have you seen a car like this before? (ever)
10. In summer Peter gets up at seven (usually)

VIb

Instruktie:
Vul aan op de stippellijn.

(Complete on the dotted line).

1. One church - two .....
2. One housewife
3. One dish

4. One woman
5. One bed
6. One tooth

VIIb

Instruktie:
Zet op de openstaande plaatsen in onderstaande zinnen het werkwoord dat tussen haakjes achter de zin staat, in de juiste tijd (geen -ing-vormen gebruiken).

(Fill in the correct verb forms in the open spaces in the sentences below. (Do not use -ing-forms)).

1. This morning the boy ..... a mistake. (make)
2. Mary ..... for the bus for a long time. (wait)
3. Last night I ..... a dream. (have)
4. He ..... in an office for many years now. (work)
5. Last month I ..... a new dress. (need)
6. When I was at school I ..... many people. (know)
7. The children ..... at work for the past two hours. (be)
8. They ..... to the disco. (go)
9. He ..... ill for over two weeks now. (be)
10. Last night my neighbour ..... in hospital. (die)

VIIIb

Instruktie:
Maak van de volgende twee zinnen steeds één zin door who of which te gebruiken. Schrijf het antwoord op de stippellijn.

(Make one sentence out of every pair of sentences below by using who or which. Write your answer on the dotted line).

1. A fish is an animal - A fish swims in the sea.
2. An eagle is a bird - An eagle flies over the mountains.
3. A secretary is a girl - A secretary types letters.
4. A Jaguar is a car - A Jaguar can go fast.
5. A nurse is a woman - A nurse works in a hospital.
6. A painter is an artist - A painter makes paintings.

IXb

Instruktie:
In onderstaande zinnen gaat het er om de tussen haakjes gegeven woorden op de juiste plaats in de zin te zetten. Gebruik daarvoor één van de beide stippellijntjes in de zin.

(Put the words given in parentheses in their proper places in the sentences below. Use one of the two dotted lines in each sentence).

1. I'll see you ..... tonight ..... (at the disco)
2. Father works ..... in the garden ..... (on Saturday)
3. The sun sets ..... every day ..... (in the West)
4. She visited her mother ..... in hospital ....(two days ago)
5. He was ..... at school ..... (yesterday)

6. Grandfather stays ..... in winter ..... (at home)

Xb

Instruktie:
Vul op de openstaande plaatsen in onderstaande zinnen de juiste vorm in van het werkwoord dat tussen haakjes achter de zin staat.
Gebruik geen shall of will.

(Fill in the correct form of the verb given in parentheses in the open spaces in the sentences below. Do not use shall or will).

1. In summer he ..... to school. (cycle)
2. There are no buses today. So Maggie ..... to school this morning. (walk)
3. John always ..... a lot. (eat)
4. At the moment our teacher ..... John a question. (ask)
5. He never ..... attention to what I say. (pay)
6. Every evening many people ..... for the bus. (wait)
7. Peter ..... the newspaper every day. (read)
8. Now Jim ..... an apple again. (eat)
9. Now he ..... outside again. (look)
10. Sheila ..... to school, when an accident happens. (cycle)

Appendix II. Summary of sex effects on students' achievement. Girls (N=26). Boys (N=24).

Subtest	Students' t	df	p<
I	2.43	48	.02
II	.33	48	.74
III	.04	48	.97
IV	-1.07	48	.29
V	.66	48	.51
VI	1.93	48	.06
VII	1.28	48	.21
VIII	.83	48	.41
IX	1.02	48	.31
X	2.66	48	.01

Appendix III. Pearson correlation matrix for both test halves administered in a - b and b - a order. N=26 and N=24 respectively.

	Ib	IIB	IIIb	IVb	Vb	VIb	VIIb	VIIIb	IXb	Xb
Ia	.465* (.417*)									
IIa		.435* (.644**)								
IIIa			.639** (.754**)							
IVa				.035 (.236)						
Va					.150 (.381)					
VIa						.393 (.311)				
VIIa							.553** (.441*)			
VIIIa								-.175 (.068)		
IXa									.578** (.580**)	
Xa										.547** (.659**)

* = p<.05
** = p<.005

Appendix IV.

A. Table showing results of achievements on both test halves, taken in order a - b. (N=26).

	Students' t	df	p<
Ia vs. Ib	-1.01	25	NS
IIa vs. IIb	-3.35	25	.003
IIIa vs. IIIb	-1.15	25	NS
IVa vs. IVb	4.32	25	.001
Va vs. Vb	-3.63	25	.001
VIa vs. VIb	2.82	25	.009
VIIa vs. VIIb	- .88	25	NS
VIIIa vs. VIIIb	2.38	25	.03
IXa vs. IXb	2.18	25	.04
Xa vs. Xb	3.54	25	.002

B. Table showing results of achievements on both test halves, taken in order b - a (N=24).

	Students' t	df	p<
Ia vs. Ib	-2.22	23	.04
IIa vs. IIb	.70	23	NS
IIIa vs. IIIb	- .11	23	NS
IVa vs. IVb	-4.34	23	.001
Va vs. Vb	1.28	23	NS
VIa vs. VIb	-1.93	23	NS
VIIa vs. VIIb	- .22	23	NS
VIIIa vs. VIIIb	-2.18	23	.04
IXa vs. IXb	-2.54	23	.02
Xa vs. Xb	-2.18	23	.04

Appendix V. *t* values of syntactic *versus* morphosyntactic rules. N=50.

Syntactic rules	vs.	Morphosyntactic rules	Student *t*	df	p<
Test		Test			
I		IV	-1.77	49	NS
III		IV	-7.43	49	.0001
V		IV	-3.18	49	.003
VII		IV	-12.24	49	.0001
IX		IV	2.72	49	.009
I		VIII	-5.04	49	.0001
III		VIII	-8.66	49	.0001
V		VIII	-8.11	49	.0001
VII		VIII	-15.48	49	.0001
IX		VIII	-1.28	49	NS
I		X	6.09	49	.0001
III		X	-.34	49	NS
V		X	5.26	49	.0001
VII		X	-.60	49	NS
IX		X	9.31	49	.0001

t values of syntactic *versus* morphological rules. N=50.

Syntactic rules	vs.	Morphological rules	Student *t*	df	p<
Test		Test			
I		II	-4.88	49	.0001
III		II	-8.77	49	.0001
V		II	-7.13	49	.0001
VII		II	-12.93	49	.0001
IX		II	-.98	49	NS
I		VI	-3.52	49	.001
III		VI	-7.24	49	.0001
V		VI	-4.10	49	.0001
VII		VI	-12.15	49	.0001
IX		VI	1.15	49	NS

t values of open versus closed systems.
N=50.

Open Systems	vs.	Closed Systems	Student t	df	p <
Test		Test			
I		II	-4.88	49	.0001
III		II	-8.77	49	.0001
V		II	-7.13	49	.0001
VII		II	-12.93	49	.0001
IX		II	-.98	49	NS
I		X	6.09	49	.0001
III		X	-.34	49	NS
V		X	5.26	49	.0001
VII		X	-.60	49	NS
IX		X	9.31	49	.0001

t values of open versus open/closed systems.
N=50.

Open Systems	vs.	Open/Closed Systems	Student t	df	p <
I		IV	-1.77	49	NS
III		IV	-7.43	49	.0001
V		IV	-3.18	49	.003
VII		IV	-12.24	49	.0001
IX		IV	2.72	49	.009
I		VI	-3.52	49	.0001
III		VI	-7.24	49	.0001
V		VI	-4.10	49	.0001
VII		VI	-12.15	49	.0001
IX		VI	1.15	49	NS
I		VIII	-5.04	49	.0001
III		VIII	-8.66	49	.0001
V		VIII	-8.11	49	.0001
VII		VIII	-15.48	49	.0001
IX		VIII	-1.28	49	NS

t values of closed *versus* open/closed systems. N=50.

Closed Systems	vs.	Open/Closed Systems	Student *t*	df	p<
Test		Test			
II		IV	4.76	49	.0001
X		IV	-7.36	49	.0001
II		VI	2.29	49	NS
X		VI	-8.83	49	.0001
II		VIII	-.39	49	NS
X		VIII	-10.82	49	.0001

t values of morphological *versus* morphosyntactic rules. N=50.

Morphological rules	vs.	Morphosyntactic rules	Student *t*	df	p<
Test		Test			
II		IV	4.67	49	.0001
VI		IV	1.39	49	NS
II		VIII	-.39	49	NS
VI		VIII	-2.91	49	.005
II		X	9.93	49	.0001
VI		X	8.35	49	.0001

Appendix VI. Kendall Correlation Coefficients between Types of Grammar Rules/Grammatical Systems and School Marks in Forms 3 and 4. (N=50).

	Syntactic Rules	Morpho-Syntactic Rules	Morpho-logical Rules	Mixed Open/Closed Systems	Closed Systems	Total
Mark	.32 NS	.28 NS	.27 NS	.23 NS	.28 NS	.35 NS

Appendix VII. Students' t values between 3rd (N=18) and 4th (N=32) formers as to rule and system types, both individually and collectively.

	Syntactic Rules			Morphosyntactic Rules			Morphological Rules			Mixed Closed/ Open Systems			Closed Systems			Total		
	t	df	p<	t	df	p<	t	df	p<	t	df	p<	t	df	p<	t	df	p<
Form 3 vs. Form 4	-1.16	48	.25	-1.09	48	.28	-2.21	48	.03	-2.55	48	.01	-.23	48	.82	-1.42	48	.16

ABSTRACT

This article explores the relationship between types of grammatical rules and grammatical subsystems on the one hand and achievement in English as a Foreign Language on the other. It does so on the basis of a tailor-made grammatical test which required students to manipulate typical aspects of English syntactic, morphosyntactic, and morphological structure and a subsequent statistical analysis of the test scores. It arrives at the conclusion that syntactic rules are significantly more difficult than both morphosyntactic and morphological rules and that open grammatical systems are significantly more difficult than mixed open/closed systems. A final section discusses the pedagogical implications of these findings.